Fact Sheet

The U.S. Environmental Protection Agency (EPA)

Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:

Potlatch Deltic Land and Lumber, LLC
St. Maries Plywood Mill

Public Comment Start Date:
Public Comment Expiration Date:

Technical Contact: Brian Nickel
206-553-6251
800-424-4372, ext. 36251 (within Alaska, Idaho, Oregon and Washington)
Nickel.Brian@epa.gov

The EPA Proposes to Reissue **NPDES Permit**
The EPA proposes to **issue/reissue/modify/revoke and reissue** the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.
This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

State/Tribal Certification

The EPA is requesting that the **Insert State Agency Name** provide a final certification of the permit for this facility under Section 401 of the Clean Water Act. Comments regarding the State/Tribe's intent to certify the permit should be directed to:

Insert State Agency Address

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public

Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Water Division will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR 124.19.

Documents are Available for Review

The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at:
https://www.epa.gov/npdes-permits/about-region-10s-npdes-permit-program

US EPA Region 10
1200 Sixth Avenue, Suite 155
Mail Code: 19-C04
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The fact sheet and draft permits are also available at:

Insert Address

I. Acronyms

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q10	30 day, 10 year low flow
ACR	Acute-to-Chronic Ratio
AML	Average Monthly Limit
ASR	Alternative State Requirement
AWL	Average Weekly Limit
BA	Biological Assessment
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BE	Biological Evaluation
BO or BiOp	Biological Opinion
BOD_5	Biochemical oxygen demand, five-day
BOD_{5u}	Biochemical oxygen demand, ultimate
BMP	Best Management Practices
BPT	Best Practicable
°C	Degrees Celsius
C BOD_5	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
COD	Chemical Oxygen Demand
CSO	Combined Sewer Overflow
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement

EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FDF	Fundamentally Different Factor
FR	Federal Register
Gpd	Gallons per day
HUC	Hydrologic Unit Code
IC	Inhibition Concentration
ICIS	Integrated Compliance Information System
IDEQ	Idaho Department of Environmental Quality
I/I	Infiltration and Inflow
LA	Load Allocation
lbs/day	Pounds per day
LC	Lethal Concentration
LC_{50}	Concentration at which 50% of test organisms die in a specified time period
LD_{50}	Dose at which 50% of test organisms die in a specified time period
LOEC	Lowest Observed Effect Concentration
LTA	Long Term Average
LTCP	Long Term Control Plan
mg/L	Milligrams per liter
mL	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
N	Nitrogen
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observable Effect Concentration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System

NSPS	New Source Performance Standards
O&M	Operations and maintenance
POTW	Publicly owned treatment works
PSES	Pretreatment Standards for Existing Sources
PSNS	Pretreatment Standards for New Sources
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
SPCC	Spill Prevention and Control and Countermeasure
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
TU_a	Toxic Units, Acute
TU_c	Toxic Units, Chronic
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet
WD	Water Division
WET	Whole Effluent Toxicity
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

WWTP	Wastewater treatment plant

I. Background Information

A. General Information

This fact sheet provides information on the draft NPDES permit for the following entity:

Table 1. General Facility Information

NPDES Permit #:	**ID0000019**
Applicant:	**Potlatch Deltic Land and Lumber** **St. Maries Complex**
Type of Ownership	**Private**
Physical Address:	**2200 Railroad Avenue** **St. Maries, ID 83861**
Facility Contact:	**Ward Cooper, Environmental Manager**
Facility Location:	**Latitude: 47.329167** **Longitude: -116.591667**
Receiving Water	**Insert Name, Insert State/Tribal Reservation**
Facility Outfall	**Latitude (decimal degrees)** **Longitude**

B. Permit History

The most recent NPDES permit for the **Potlatch Deltic St. Maries Complex** was issued on October 1, 1996, became effective on **October 31, 1996,** and expired on **October 31, 2001**. An NPDES application for permit issuance was submitted by the permittee on May 10, 2001. The EPA determined that the application was timely and complete. Therefore, pursuant to Title 40 Code of Federal Regulations (CFR) 122.6, the permit has been administratively continued and remains fully effective and enforceable.

This facility also has coverage under the EPA's Multi-Sector General Permit for Stormwater Discharges Associated With Industrial Activity (MSGP), under permit number IDR05I310.

C. Tribal Consultation

II. Facility Information

A. Description

The facility encompasses 160 acres on the Coeur d'Alene Reservation and consists of a lumber mill, plywood plant, power plant, wet and dry log storage yards, and a woody debris storage area. The individual permit covers the discharge of log yard runoff comingled with non-contact cooling water, which flows to Outfall 001. According to the facility's environmental manager, Mr. Ward Cooper, Outfall 001 is also covered under the MSGP along with three additional stormwater outfalls, which are numbered 002, 003, and 004.

Treatment for outfall 001 consists of screening to remove floating debris and addition of a defoamer.

Potential pollutants in stormwater include fuel (gasoline and diesel), antifreeze, oils including hydraulic oil, bark and woody debris, phenolic resin, dust, and sediment. Control measures are in place to prevent or reduce discharges of these pollutants.

For approximately seven months of the year, stormwater is re-used for log sprinkling.

Outfall Description

Effluent Characterization

To characterize the effluent, the EPA evaluated the facility's application form, discharge monitoring report (DMR) data, and additional data provided by **Insert Facility**. The effluent quality is summarized in Table 2. Data are provided in Appendix B.

Table 2 Effluent Characterization

Parameter	Units	Minimum	Average	Maximum	Standard Deviation	Count	Source
Aluminum	µg/L	570	570	570	N/A	1	Application
Ammonia	mg/L	0.06	0.41	1.2	0.44	6	Application and individual permit DMR data
Barium	µg/L	88	88	88	N/A	1	Application
Biochemical oxygen demand, 5-day	mg/L	6	22	48	18	6	Application and individual permit DMR data
Boron	µg/L	40	40	40	N/A	1	Application
Chemical oxygen demand	mg/L	62.8	150	299	66	10	MSGP DMR Data
Iron	µg/L	6660	6660	6660	N/A	1	Application
Manganese	µg/L	1820	1820	1820	N/A	1	Application
Oxygen, dissolved	mg/L	2.72	8.98	16.5	6.83	5	Individual permit DMR data
pH	s.u.	6.0	N/A	8.1	N/A	276	Individual permit DMR data
Phosphorus, total as P	mg/L	0.22	0.52	0.86	0.26	6	Application and individual permit DMR data
Solids, total suspended	mg/L	27	78.2	215	57.5	10	MSGP DMR data
Temperature (daily max.)	°C	3	12.8	27.9	5.7	274	Individual permit DMR data
Total phenols	µg/L	300	300	300	N/A	1	Application
Turbidity	NTU	21.6	107	364	146	5	Individual permit DMR data
Zinc	µg/L	27	86	172	48	10	MSGP DMR data

Compliance History

The facility has not had any violations of the effluent limits in its individual NPDES permit between January 2007 and February 2020.

The **EPA** conducted an inspection of the facility on March 9, 2017. The inspection addressed compliance with both the individual permit and the MSGP. Areas of concern

identified during the inspection included exceedances of MSGP benchmarks for TSS, COD, and zinc despite the facility documenting corrective actions in its annual reports, several turbid discharges and monitoring points, a foamy discharge at outfall 001, algal growth in puddles of stormwater at the base of a woody debris pile, quarterly visual assessment reports that routinely described stormwater discharges as "grey" or "opaque," leachate from the woody debris area, open dumpsters, the representativeness of the hardness value used to establish the zinc benchmark, the use of magnesium chloride for dust control, and the use of a defoamer at outfall 001.

Additional compliance information for this facility, including compliance with other environmental statutes, is available on Enforcement and Compliance History Online (ECHO). The ECHO web address for this facility is: https://echo.epa.gov/detailed-facility-report?fid=110000468789.

III. Receiving Water

In drafting permit conditions, the EPA must analyze the effect of the facility's discharge on the receiving water. The details of that analysis are provided in the Water Quality-Based Effluent Limits section below. This section summarizes characteristics of the receiving water that impact that analysis.

A. Receiving Water

This facility discharges from outfall 001 to the St. Joe River in the City of St. Maries, ID within the boundary of the Coeur d'Alene Reservation. Outfall 001 is located approximately six river miles upstream of Chatcolet Lake, and approximately 1.5 miles downstream from the confluence of the St. Joe and St. Maries Rivers.

Outfalls 002, 003, and 004 discharge to an unnamed stream that runs along the south side of the facility.

B. Water Quality Standards

Overview

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. 40 CFR 122.4(d) requires that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States. A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial uses that each water body is expected to achieve, such as drinking water supply, contact recreation, and aquatic life. The numeric and narrative water quality criteria are the criteria deemed necessary to support the beneficial use classification of each water body. The anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

The Coeur d'Alene Tribe received treatment in a manner similar to a state (TAS) status for administering WQS over portions of Lake Coeur d'Alene and the St. Joe River that lie within the boundaries of the Coeur d'Alene Reservation. Outfall 001 discharges to the St. Joe River. These waters are referred to as "Reservation TAS Waters." Water Quality Standards for Approved Surface Waters of the Coeur D'Alene Tribe are in effect for CWA purposes,

effective June 12, 2014 . This is the first issuance of an NPDES permit to the SMWWTP for which CDT WQS are in effect for CWA purposes.

Outfalls 002, 003, and 004 discharge to an unnamed tributary of the St. Joe River. Since the Tribe only has TAS for the St. Joe River and Lake Coeur d'Alene, the Tribe's approved water quality standards do not apply to this unnamed tributary. For all other surface waters within the exterior boundaries of the Coeur d'Alene Reservation, the Tribe has tribally-adopted WQS which they have not submitted to the EPA for approval. These waters are referred to as "Reservation Waters." Thus, for outfalls 002, 003, and 004, which discharge to a portion of the Reservation where the Tribe does not have TAS, the EPA used the downstream standards for the Reservation TAS waters as reference for determining the permit limits to protect tribal designated uses and to protect downstream uses in Reservation TAS waters. The tribally-adopted WQS for the Reservation Waters are similar to the WQS for the Reservation TAS waters, and, as such, application of the standards for Reservation TAS water will ensure protection of beneficial uses in the unnamed tributary.

Designated Beneficial Uses

The CDT has adopted general water use classifications that apply to all of the Reservation TAS Waters. All TAS Waters shall be designated for the uses of industrial water supply, aesthetics, and wildlife habitat. Additionally, TAS Waters are classified for:

- Domestic Water Supply
- Agricultural Water Supply
- Recreational and Cultural Use
- Bull Trout and Cutthroat Trout

The EPA used the CDT WQS in developing permit conditions and effluent limitations. The EPA also referenced Idaho WQS at IDAPA 58.01.02. in cases where TAS WQS are not in effect for Clean Water Act purposes. This will ensure that the permit conditions are protective of the downstream uses. Water quality standards are further discussed in Section V.D below.

Human Health Criteria

The EPA did not act on the human health water quality criteria found in Section 7 of the CDT WQS. Thus, the Tribe's human health criteria are not in effect for CWA purposes. Therefore, the human health criteria in the Idaho WQS (IDAPA 58.01.02.210) were used as a reference for human health criteria, to protect downstream water quality and beneficial uses.

C. Water Quality

The water quality for the receiving water is summarized in Table 4.

Table 3. Receiving Water Quality Data

Parameter	Units	Statistic	Value	Source
Aluminum	µg/L	Single result	500	USGS NWIS station 12415075
Ammonia	mg/L	90th percentile	0.02	USGS NWIS stations 12415135 and 12415140
Boron	µg/L	Single result	100	USGS NWIS station 12415075

Dissolved organic carbon	mg/L	Minimum	1.05	USGS NWIS station12415140
Hardness	mg/L as CaCO3	5th percentile	12.6	USGS NWIS stations 12415135 and 12415140
Iron	µg/L	Geometric mean	285	USGS NWIS station 12415075
Iron	µg/L	90th percentile	800	USGS NWIS station 12415075
Manganese	µg/L	Geometric mean	13.4	USGS NWIS stations 12415135 and 12415140
pH	Standard units	5th – 95th	6.4 – 7.5	USGS NWIS stations 12415135 and 12415140
Temperature (June – Sep)	°C	95th Percentile	25.5	USGS NWIS station 12415075
Temperature (October – May)	°C	95th Percentile	11.8	USGS NWIS station 12415075
Temperature (year-round)	°C	95th Percentile	22.8	USGS NWIS station 12415075
Suspended Sediment (TSS)	mg/L	90th Percentile	35.6	USGS NWIS stations 12415135 and 12415140
Zinc	µg/L	Geometric mean	1.90	USGS NWIS stations 12415135 and 12415140
Zinc	µg/L	90th percentile	3.82	USGS NWIS stations 12415135 and 12415140

D. Water Quality Limited Waters

Idaho's 2016 305(b) Integrated Report identifies the 3.76 mile stretch of the St. Joe River receiving the discharge as Category 3 or lacking sufficient data to determine if any beneficial uses are being met (i.e., unassessed). The St. Joe River downstream, between the point of discharge and Coeur d'Alene Lake, is also unassessed. Coeur d'Alene Lake, approximately eight river miles downstream of the discharge, is not supporting (Category 5) cold water aquatic life criteria due to cadmium, lead, and zinc exceedances of water quality standards, though a TMDL has not been approved by the EPA.

In 2009, The CDT and IDEQ collaboratively developed the 2009 Lake Management Plan with the goal "to protect and improve lake water quality by limiting basin-wide nutrient inputs that impair lake water quality conditions, which in turn influence the solubility of mining-related metals contamination contained in lake sediments"(IDEQ&CdAT, 2009). The Plan does not establish numeric nutrient criteria. An EPA-approved TMDL (Category 4a) for temperature is in effect on the St. Joe (ID17010304PN027_05) approximately 1.5 river miles upstream of the discharge, which is not meeting ID cold water aquatic life uses, as well as an EPA-approved TMDL for temperature and sediment on the St. Maries approximately 1.5 miles upstream of the discharge where the St. Joe and St. Maries Rivers join (ID17010304PN007_05), which is also not supporting cold water aquatic life uses.

The unnamed stream which receives discharges from outfalls 002, 003, and 004 does not appear on the interactive map for Idaho's 2016 integrated report (https://mapcase.deq.idaho.gov/wq2016/). The EPA will assume that this stream has not been assessed.

E. Low Flow Conditions

Critical low flows for the St. Joe River are summarized in Table 5.

Table 4. Critical Flows in the St. Joe River

Flows	Annual Flow (cfs)
1Q10	125
7Q10	258
30B3	408
30Q5	363
Harmonic Mean	1076
Source: USGS station 12415135, St. Joe River at Ramsdell near St, Maries, ID	

Low flows are defined in Appendix D, Part C.

Outfalls 002, 003, and 004 discharge to an unnamed stream that runs along the south side of the facility. No flow data are available for this unnamed stream. The EPA attempted to estimate low flows for this stream using the USGS StreamStats application (https://streamstats.usgs.gov), which uses an interactive map interface. However, this stream is not shown on the StreamStats interactive map. Another small stream which appears on StreamStats near the southern boundary of the facility had a drainage area of 0.21 square miles and critical low flows less than 0.02 CFS.

The unnamed creek which receives discharges from outfalls 002, 003, and 004 probably also has a small drainage area and critical low flows less than 1 CFS. Thus, the EPA will assume that the critical low flow of the unnamed stream which receives discharges from outfalls 002, 003, and 004 is zero.

IV. Effluent Limitations and Monitoring

Table 6, below, presents the existing effluent limits and monitoring requirements in the 1996 permit. Table 7, below, presents the proposed effluent limits and monitoring requirements in the draft permit.

Table 5. Existing Permit - Effluent Limits and Monitoring Requirements

Effluent Parameters	Units	Effluent Limitations		Monitoring Requirements	
		MONTHLY AVERAGE	DAILY MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow	MGD	--	--	Weekly	Recording
pH	s.u.	6.0 to 9.0		Weekly	Grab
Temperature	°C	--	--	Weekly	Grab

Table 6. Draft Permit - Effluent Limits and Monitoring Requirements for Outfall 001

Effluent Parameters	Units	Effluent Limitations		Monitoring Requirements	
		MONTHLY AVERAGE	DAILY MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow	MGD	Report	Report	Weekly	Recording
Aluminum	µg/L	221	444	Monthly	Grab
	lb/day	2.0	4.1		Calculation
Iron	mg/L	7.02	14.1	Monthly	Grab
	lb/day	64.4	129		Calculation
Manganese	µg/L	2002	4016	Monthly	Grab

Effluent Parameters	Units	Effluent Limitations		Monitoring Requirements	
		MONTHLY AVERAGE	DAILY MAXIMUM	FREQUENCY	SAMPLE TYPE
	lb/day	18.4	36.8		Calculation
pH	s.u.	6.5 to 8.5 std. units		Weekly	Grab
TSS	mg/L	75	165	Weekly	Grab
	lb/day	688	1,514		Calculation
Zinc	µg/L	175	340	Monthly	Grab
	lb/day	1.6	3.1		Calculation
COD	mg/L	—	Report	Monthly	Grab
Temperature	°C	Report	Report	Continuous	Recording
2,4,5-Trichlorophenol	µg/L	—	Report	2/year	Grab
2,4,6-Trichlorophenol	µg/L	—	Report	2/year	Grab
2,4-Dichlorophenol	µg/L	—	Report	2/year	Grab
2,4-Dimethylphenol	µg/L	—	Report	2/year	Grab
2,4-Dinitrophenol	µg/L	—	Report	2/year	Grab
2-Chlorophenol	µg/L	—	Report	2/year	Grab
2-Methyl-4,6-Dinitrophenol	µg/L	—	Report	2/year	Grab
3-Methyl-4-Chlorophenol	µg/L	—	Report	2/year	Grab
Dinitrophenols	µg/L	—	Report	2/year	Grab
Nonylphenol	µg/L	—	Report	2/year	Grab
Pentachlorophenol	µg/L	—	Report	2/year	Grab
Phenol	µg/L	—	Report	2/year	Grab

The proposed effluent limits for aluminum, iron, manganese, TSS, and zinc are new. The bases for these new effluent limits are described below.

A. Basis for Effluent Limits

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

B. Pollutants of Concern

Pollutants of concern are those that either have technology-based limits or may need water quality-based limits. The EPA identifies pollutants of concern for the discharge based on those which:

- Have a technology-based limit
- Have an assigned wasteload allocation (WLA) from a TMDL
- Had an effluent limit in the previous permit (or a benchmark in the MSGP)
- Are present in the effluent monitoring. Monitoring data are reported in the application and DMR and any special studies
- Are expected to be in the discharge based on the nature of the discharge

Based on this analysis, pollutants of concern are as follows:

- Aluminum
- Ammonia

- Barium
- Boron
- Color
- Debris
- Iron
- Manganese
- Oxygen-demanding pollutants (COD, BOD_5)
- pH
- Phenolic compounds
- Temperature
- TSS
- Zinc

For outfalls 002, 003, and 004, effluent data are only available for COD, pH, TSS, and zinc.

C. Technology-Based Effluent Limits

For dischargers other than publicly owned treatment works (POTWs), for conventional pollutants, the CWA requires effluent limits based on the best conventional pollutant control technology (BCT), and, for toxic and non-conventional pollutants, effluent limits based on the best available technology economically achievable (BAT) (CWA Section 301(b) and 40 CFR 125.3(a)(2)).

Technology-based effluent limits may be established through application of EPA-promulgated effluent limit guidelines (ELGs), or on a case-by-case basis under Section 402(a)(1) of the CWA (these are referred to as best professional judgment or BPJ effluent limitations), or through a combination of these methods (40 CFR 125.3(c)).

The EPA has promulgated effluent limit guidelines (ELGs) for the timber products processing point source category in 40 CFR 429. ELGs in the plywood (Subpart C), wet storage (Subpart I), and sawmills and planing mills (Subpart K) subcategories are applicable to the Potlatch Deltic St. Maries Complex.

Subparts C and K require that there be no discharge of process wastewater. The definition of "process wastewater" at 40 CFR 429.11(c) specifically excludes non-contact cooling water, material storage yard runoff (either raw material or processed wood storage), boiler blowdown, and wastewater from washout of thermal oxidizers or catalytic oxidizers, wastewater from biofilters, or wastewater from wet electrostatic precipitators used upstream of thermal oxidizers or catalytic oxidizers installed by facilities covered by subparts B, C, D or M to comply with the national emissions standards for hazardous air pollutants (NESHAP) for plywood and composite wood products (PCWP) facilities (40 CFR part 63, subpart DDDD). For the dry process hardboard, veneer, finishing, particleboard, and sawmills and planing mills subcategories, fire control water is excluded from the definition.

The ELGs for wet storage (subpart I) require that there shall be no debris discharged and that the pH shall be within the range of 6.0 to 9.0 standard units.

D. MSGP Benchmarks

The EPA's 2015 MSGP includes benchmarks for facilities in Sector A (timber products) as shown in Table 7. The benchmark levels in the EPA MSGP are not effluent limits. An exceedance of the benchmark is not, in and of itself, a violation of the permit, rather it triggers corrective actions to resolve the exceedances.

Table 7: MSGP Benchmarks for Timber Products

Parameter	Benchmark Monitoring Concentration
Chemical Oxygen Demand (COD)	120 mg/L
Total Suspended Solids (TSS)	100 mg/L
Total Zinc	40 µg/L[1]
Notes: 1. The zinc benchmarks are hardness-dependent. The listed concentration is the benchmark for a hardness of 0 – 24.99 mg/L as $CaCO_3$. The hardness of the St. Joe River is generally within this range.	

E. Water Quality-Based Effluent Limits

Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Discharges to State or Tribal waters must also comply with conditions imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. 40 CFR 122.44(d)(1) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State or Tribal water quality standard, including narrative criteria for water quality. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (40 CFR 122.4(d), 122.44(d)(4), see also CWA Section 401(a)(2)).

The regulations require the permitting authority to make this evaluation using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation for the discharge in an approved TMDL. If there are no approved TMDLs that specify wasteload allocations for this discharge; all of the water quality-based effluent limits are calculated directly from the applicable water quality standards.

Reasonable Potential Analysis and Need for Water Quality-Based Effluent Limits

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (*TSD*) (USEPA, 1991) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a water quality-based effluent limit must be included in the permit.

In some cases, a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and within which certain water quality criteria may be exceeded (USEPA, 2014). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired, all designated uses are maintained and acutely toxic conditions are prevented.

Per Section 12(1)(c) of the CDT WQS, mixing zones are established in CWA Section 401 certifications. If the CDT revises the allowable mixing zone in its final certification of this permit, the reasonable potential analysis and water quality-based effluent limit calculations will be revised accordingly.

Because there are no flow data and the critical flows are likely to be very small, no mixing zones are proposed for outfalls 002, 003, and 004.

Table 8. Mixing zones for outfall 001

Criteria Type	Critical Low Flow (cfs)	Mixing Zone (% of Critical Low Flow)	Dilution Factor
Acute Aquatic Life (1Q10)	125	25%	19.4
Chronic Aquatic Life (except ammonia) (7Q10)	258	25%	38.9
Chronic Aquatic Life (ammonia) (30B3)	408	25%	60.9
Human Health Noncarcinogen (30Q5)	363	25%	54.3
Human Health Carcinogen	1076	25%	159.1

The reasonable potential and water quality-based effluent limit for specific parameters are summarized below. The calculations are provided in Appendix D.

Aluminum

The Coeur d'Alene Tribe's WQS do not include numeric water quality criteria for aluminum. The Tribe does have a narrative criterion for toxic substances, which reads, "Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones."

40 CFR 122.44(d)(1)(vi) states that "where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of" three options provided by the regulation. One of the options, in 40 CFR 122.44(d)(1)(vi)(B) is to "establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information."

The EPA published revised 304(a) aquatic life criteria for aluminum in freshwater in December 2018. The aluminium 304(a) criteria use Multiple Linear Regression (MLR) models to normalize the toxicity data. The criteria values are calculated based on a site's pH, total hardness, and dissolved organic carbon (DOC).

Two DOC results are available from NWIS station 12415140 (St. Joe River Near Chatcolet, ID), which is downstream from the facility. These samples were also analyzed for pH and hardness. The EPA used the aluminum criteria calculator to calculate the values of the acute and chronic water quality based on these two contemporaneous sets of DOC, hardness and pH data.[1] The results are shown in Table 9.

Table 9: Aluminum Criteria Calculator Results

Date	DOC	Hardness	pH	Acute aluminum criterion	Chronic aluminum criterion
7/18/2005	1.1	25.6	7.1	720	350
8/25/2005	1.5	29.7	6.8	630	280

Although there were only two DOC results available for the receiving water, there were 100 contemporaneous sets of pH and hardness data available at USGS stations 12415135 and 12415140. The EPA calculated the values of the aluminum criteria for each pair of contemporaneous pH and hardness values, using the lower of the two DOC concentrations measured (1.1 mg/L). The resulting 10^{th} percentile acute criterion was 510 µg/L and the resulting 10^{th} percentile chronic criterion was 270 µg/L. Since there are only two results for DOC, the EPA considers this approach more representative of the variability of water chemistry (and, in turn, aluminum toxicity) in the St. Joe River in the vicinity of the discharge relative to using the lower of the two sets of criteria values calculated from contemporaneous DOC, pH, and hardness data. Thus, the EPA will use an acute aluminum criterion of 510 µg/L and a chronic aluminum criterion of 270 µg/L to interpret the Tribe's narrative criterion for toxic substances.

A single result of 500 µg/L total aluminum was available from NWIS station 12415075 (St. Joe River at St. Maries ID), which was collected on May 22,1980. The EPA has used 500 µg/L as the background concentration of aluminum. Because the ambient concentration of aluminum is higher than the chronic water quality criterion, the chronic criterion must be met at the end-of-pipe.

The EPA has determined that the discharge from outfall 001 has the reasonable potential to cause or contribute to excursions above the 304(a) criteria for aluminum. The draft permit therefore proposes water quality-based effluent limits for aluminum, for outfall 001.

Ammonia

Ammonia criteria are based on a formula which relies on the pH and temperature of the receiving water, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase.

[1] The aluminum criteria calculator and other information about the recommended criteria for aluminum are available at: https://www.epa.gov/wqc/aquatic-life-criteria-aluminum

The equations used to determine water quality criteria for ammonia are below. The EPA disapproved the ammonia criteria at Provision 7(12) and the entry for ammonia in Provision 7(10) of the CDT WQS (i.e., not in effect for CWA purposes). As such, the ammonia criteria at IDAPA 58.01.02.250 were used as reference in evaluating reasonable potential for ammonia, which will ensure protection of Idaho downstream uses.

Table 10 Ammonia Criteria

Total ammonia nitrogen criteria (mg N/L):

Annual Basis

Based on IDAPA 58.01.02

INPUT	
1. Receiving Water Temperature (deg C):	22.8
2. Receiving Water pH:	7.50
3. Is the receiving water a cold water designated use?	Yes
4. Are non-salmonid early life stages present or absent'	Present
OUTPUT	
Total ammonia nitrogen criteria (mg N/L):	
Acute Criterion (CMC)	**13.28**
Chronic Criterion (CCC)	**2.56**

Acute Criteria Equation: Cold Water

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

Acute Criteria Equation: Warm Water

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

Chronic Criteria: Cold Water, Early Life Stages Present

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$$

Chronic Criteria: Cold Water, Early Life Stages Absent

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet 1.45 \cdot 10^{0.028(25-T)})$$

A reasonable potential calculation showed that the discharge from outfall 001 does not have the reasonable potential to cause or contribute to a violation of the water quality criteria for **ammonia.** The draft permit requires that the permittee monitor the receiving water for **ammonia, pH and temperature** in order to determine the applicable ammonia criteria for the next permit reissuance. **See Appendices D and F for reasonable potential and effluent limit calculations for ammonia.**

Barium

The Coeur d'Alene Tribe's WQS do not include numeric water quality criteria for barium. The Tribe does have a narrative criterion for toxic substances, which reads, "Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones."

40 CFR 122.44(d)(1)(vi) states that "where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of" three options provided by the regulation. One of the options, in 40 CFR 122.44(d)(1)(vi)(B) is to "establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information."

The EPA has published a recommended human health criterion for barium of 1,000 µg/L for the consumption of water and organisms. The EPA has determined that the discharge does not have the reasonable potential to cause or contribute to excursions above the recommended water quality criterion for barium. Therefore, no effluent limits are proposed for barium.

Boron

The Coeur d'Alene Tribe's WQS do not include numeric water quality criteria for boron. The Tribe does have a narrative criterion for toxic substances, which reads, "Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones."

40 CFR 122.44(d)(1)(vi) states that "where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of" three options provided by the regulation. One of the options, in 40 CFR 122.44(d)(1)(vi)(B) is to "establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information."

The EPA has published a recommended criterion of 750 µg/L for boron, for irrigation of sensitive crops. The EPA has determined that the discharge does not have the reasonable potential to cause or contribute to excursions above the recommended water quality criterion for boron. Therefore, no effluent limits are proposed for boron.

Iron

The Coeur d'Alene Tribe's WQS do not include numeric water quality criteria for iron. The Tribe does have a narrative criterion for toxic substances, which reads, "Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones."

40 CFR 122.44(d)(1)(vi) states that "where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of" three options provided by the regulation. One of the options, in 40 CFR 122.44(d)(1)(vi)(B) is to "establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information."

The EPA has published a recommended chronic criterion of 1,000 µg/L for iron in freshwater. The EPA has determined that the discharge from outfall 001 has the reasonable potential to cause or contribute to excursions above the 304(a) criterion for iron. The draft permit therefore proposes water quality-based effluent limits for iron, for outfall 001.

Manganese

The Coeur d'Alene Tribe's WQS do not include numeric water quality criteria for manganese. The Tribe does have a narrative criterion, for taste and odor effects, which reads, "Water contaminants from anthropogenic causes shall be limited to concentrations that

will not impart unpalatable flavor to fish, or result in offensive odor or taste arising from the water, or otherwise interfere with the existing and designated uses of the water."

40 CFR 122.44(d)(1)(vi) states that "where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of" three options provided by the regulation. One of the options, in 40 CFR 122.44(d)(1)(vi)(B) is to "establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information."

The EPA has published a recommended criterion of 50 µg/L manganese for the consumption of water and organisms, to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages. The EPA has used this recommendation to interpret the Tribe's narrative criterion for taste and odor effects. The EPA has determined that the discharge from outfall 001 has the reasonable potential to cause or contribute to excursions above the 304(a) criterion for manganese. The draft permit therefore proposes water quality-based effluent limits for manganese, for outfall 001.

pH

Sections 19(1), (2), and (4) of the CDT WQS establish pH criteria for three use classifications: Domestic Water Supply; Agricultural Water Supply; and Bull Trout and Cutthroat Trout. pH must be maintained within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24-hour period.

A mixing zone is not necessary for the upper-bound pH criterion of 8.5 standard units, because the maximum effluent pH reported for outfall 001 is 8.1 standard units. A mixing zone cannot be granted for the lower-bound pH criterion of 6.5 standard units, because the 5th percentile ambient pH observed at USGS stations 12415135 and 12415140 is 6.4 standard units. Therefore, the receiving water does not have the assimilative capacity to dilute discharges with a pH less than the lower-bound criterion of 6.5. Therefore, no mixing zones are authorized for pH, and the draft permit establishes pH effluent limits of 6.5 – 8.5 standard units for all outfalls.

Dissolved Oxygen (DO), COD and BOD_5

Section 19(4)(ii) of the CDT WQS require that DO concentrations shall exceed 8 mg/L at all times in order to meet Aquatic Life uses. Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen in the receiving water at distances far outside of the regulated mixing zone. The BOD_5 of an effluent sample indicates the amount of biodegradable material in the wastewater and estimates the magnitude of oxygen consumption the wastewater will generate in the receiving water. Nutrients such as ammonia and phosphorus cause excessive plant and algae growth and decay which can also significantly affect the amount of dissolved oxygen available.

The EPA has limited effluent data for BOD_5 for this facility. Only six results, collected between 1997 and 2001, are available. The maximum effluent concentration of BOD_5 was 48 mg/L; at the maximum reported effluent flow rate of 1.1 mgd, this concentration would result in a BOD_5 loading of 440 lb/day. At the 95th percentile flow rate of 0.40 mgd, a

concentration of 48 mg/L BOD_5 would result in a BOD_5 loading of 160 lb/day. These loads are less than the average monthly and average weekly permitted loads of BOD_5 for the nearby City of St. Maries WWTP (500 and 751 lb/day, respectively). Due to the small loading, the discharge of BOD_5 does not have the reasonable potential to cause or contribute to a violation of dissolved oxygen criteria in TAS or downstream ID waters.

The EPA proposes to include the MSGP's chemical oxygen demand (COD) benchmark of 120 mg/L in the permit. Effluent COD concentrations greater than 120 mg/L will not be considered effluent limit violations, but will trigger corrective actions.

Phosphorus (P) and Nitrogen (N)

Section 5(4) of the CDT WQS require that "nutrients or other substances from anthropogenic causes shall not be present in concentrations which will produce objectionable algal densities or nuisance aquatic vegetation, result in a dominance of nuisance species, or otherwise cause nuisance conditions."

Reasonable potential was not found when evaluating Total P and N against the narrative criteria. The facility monitors Total P and orthophosphate in the effluent and total P in the receiving water. In-stream Total P and orthophosphate data were also available from the CDT downstream sampling site. The 95 percentile Total P level measured in the receiving water by the facility was 0.049 mg/L. Downstream CDT data show a similar 95th percentile value of 0.045 mg/L. Such levels are generally below levels consistent with excessive algal/plant growth.

Phosphorus is generally the limiting nutrient (i.e., the nutrient that controls primary productivity) in freshwaters, and particularly in lakes and reservoirs. No effluent limits are proposed for nitrogen, including ammonia.

The draft permit requires the facility to continue monitoring for total phosphorus, orthophosphate, total Kjeldahl nitrogen, nitrate-nitrite, and ammonia (as nitrogen) given the Lake Management Plan's stated goal of limiting basin-wide nutrient inputs that impair lake water quality conditions (IDEQ&CdAT, 2009). It is proposed that these monitoring requirements be retained in order to assess if limits may be required in future permitting actions.

Temperature

Section 19(4)(iii) of the CDT WQS establishes seasonal (Jun.1 – Sept. 30) temperature standards to protect the Bull Trout and Cutthroat Trout use classification.

Section 19(4)(iii) of the CDT WQS states: "From June 1, through September 30, the 7-day average of the daily maximum temperatures within the hypolimnion is not to exceed 16 °C. In thermally stratified TAS waters the hypolimnetic temperature shall be determined by natural conditions as defined in Section 19(4),(a),(ii),(A) and pursuant to Section 4 of these standards. In TAS waters greater than 15 meters this standard applies to the bottom 80 percent of the lake water column present below the metalimnion. In TAS waters less than 15 meters and greater than 8 meters this standard applies to only the bottom 50 percent of the water column present below the metalimnion. TAS waters exhibiting total water column depths less than 8 meters are not expected to maintain a stable stratified condition and are therefore exempt from this standard."

Outfall 001 discharges on the left bank of the St. Joe River. Near the outfall location, the river is shallower than 8 meters (26 feet) for most of its width, and the portion of the river cross section which is deeper than 8 meters is closer to the right bank. The discharge from outfall 001 will be warmer than the ambient water and therefore buoyant, and, since it is a side bank discharge, it is likely to attach to the left bank. As such, the discharge from outfall 001 is unlikely to affect temperatures in the deeper portion of the St. Joe River where stratification may develop. Thus, the discharge does not have the reasonable potential to cause or contribute to excursions above water quality standards for temperature from June 1 through September 30th.

There are no CDT WQS in effect for temperature for Clean Water Act purposes between Oct. 1 and May 31. Thus, the WQS at IDAPA 58.01.02.250.02.b were used as a reference to evaluate reasonable potential for October 1 – May 31. The Idaho Water Quality Standards designate the St. Joe River, from the St. Maries River to its mouth, for cold water aquatic life. The applicable Idaho water quality standard for waters so designated is: "Water temperatures of twenty-two (22) degrees C or less with a maximum daily average of no greater than nineteen (19) degrees C." The EPA has determined that the discharge does not have the reasonable potential to cause or contribute to excursions above the Idaho water quality criteria for temperature, from October – May.

Total Suspended Solids

Section 19(2)(b) of the CDT WQS includes the following EPA-approved numeric criterion for total suspended solids, for agricultural water supply uses: The concentration of total suspended solids is not to exceed an arithmetic mean of 75 mg/L during periods when the surface water is used an agricultural water supply, based on a minimum of three samples.

The CDT WQS do not include numeric water quality criteria for TSS for other beneficial uses. In-stream TSS concentration targets established in EPA-approved sediment TMDLs for Idaho rivers are generally established to protect aquatic life uses and generally have lower concentration targets with shorter averaging periods relative to the 75 mg/L arithmetic mean criterion for agricultural water supply uses. For example, the Potlatch River Subbasin Assessment and TMDLs establishes a monthly average TSS target of 50 mg/L and a maximum daily target of 80 mg/L (IDEQ, 2008).

The EPA proposes to implement the criterion for TSS without a mixing zone, as an average monthly limit set equal to the arithmetic mean criterion of 75 mg/L. The proposed maximum daily limit of 165 mg/L is based on the average monthly limit and observed effluent variability. Although these limits are based on the criterion for agricultural water supply, the EPA believes these limits will ensure protection of more sensitive beneficial uses such as aquatic life after mixing.

Turbidity

The EPA partially disapproved the numeric turbidity criteria in Provisions 19(1)(a) and 19(4)(a)(iv) of the CDT WQS (i.e., not in effect for CWA purposes). However, Section 5(5) of the CDT WQS establishes a narrative criterion for turbidity: "*Turbidity shall not be at a level to impair designated uses or aquatic biota.*"

As explained above, the EPA has proposed water quality-based effluent limits for TSS. The EPA believes the TSS limits will ensure compliance with the Tribe's narrative criterion for turbidity.

Additional Narrative Criteria

Section 5 of the CDT WQS includes the following narrative criteria, which have been incorporated as limitations in the proposed permit.

- Floating Solids, Oil and Grease. All waters shall be free from visible oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from anthropogenic causes.
- Color. True color-producing materials resulting from anthropogenic causes shall not create an aesthetically undesirable condition; nor should color inhibit photosynthesis or otherwise impair the existing and designated uses of the water.

The technology-based limit prohibiting the discharge of debris, defined as "bark, twigs, branches, heartwood or sapwood that will not pass through a 2.54 cm (1.0 in) diameter round opening," will help ensure compliance with the narrative criterion for floating solids.

The permittee reported a measurement of 90 color units for outfall 001 on its permit application. *Quality Criteria for Water 1986* states that "the source of supply should not exceed 75 color units on the platinum-cobalt scale for domestic water supplies" (USEPA, 1986). The EPA expects that the discharge of color will not cause or contribute to violations of the Tribe's narrative criterion for color at the edge of the mixing zone.

F. Antibacksliding

Section 402(o) of the Clean Water Act and 40 CFR §122.44 (l) generally prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions or standards that are less stringent than those established in the previous permit (i.e., anti-backsliding) but provides limited exceptions. For explanation of the antibacksliding exceptions refer to Chapter 7 of the Permit Writers Manual, *Final Effluent Limitations and Anti-backsliding* (USEPA, 2010).

All effluent limits in the draft permit are at least as stringent as those in the 1996 permit.

V. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

The permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal, as appropriate, to the EPA.

B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's

performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

Monitoring Changes from the Previous Permit

Parameters with New Effluent Limits

Monitoring requirements for aluminum, iron, manganese, and zinc are proposed to determine compliance with the new effluent limits proposed for these pollutants.

Phenolic Compounds

The permit application states that phenolic compounds from wood and bark may be present in the discharge. The permit application also reported a result (from a single analysis) of 0.3 mg/L (300 µg/L) total phenols. The permittee used EPA method 420.1 for the analysis of total phenols; it is not possible to differentiate between different kinds of phenols using this method.

The draft permit proposes to require monitoring twice per year for all phenolic compounds which are subject to numeric water quality criteria in waters of the Coeur d'Alene Tribe or the State of Idaho or for which the EPA has published a 304(a) criterion. The twice-per-year monitoring frequency will result in 10 samples being collected over the 5-year permit term. Ten samples will ensure that a standard deviation and mean of the data can be calculated with sufficient confidence, when the permit is reissued. The phenolic compounds to be monitored are:

- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol
- 2,4-Dichlorophenol
- 2,4-Dimethylphenol
- 2,4-Dinitrophenol
- 2-Chlorophenol
- 2-Methyl-4,6-Dinitrophenol
- 3-Methyl-4-Chlorophenol
- Dinitrophenols
- Nonylphenol
- Pentachlorophenol
- Phenol

C. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants for which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body. Table 12 presents the proposed surface water monitoring requirements for the draft permit. Surface water monitoring results must be submitted with the DMR.

The draft permit for the City of St. Maries, which discharges very close to outfall 001, proposes to require surface water monitoring for a number of parameters that will also be

useful in reissuing this permit. The EPA is proposing surface water quality monitoring requirements in the draft permit for the Potlatch Deltic St. Maries Complex which avoid duplication of such requirements in the City of St. Maries permit.

The draft permit proposes continuous surface monitoring for temperature from July 1 – September 30th; the City of St. Maries draft permit requires such monitoring from June 1 – 30. The EPA proposes to require surface water monitoring for aluminum and manganese. Although some water quality data were available for these metals, which were used in the reasonable potential and effluent limit calculations, there was only one result for aluminum (collected in 1980), and nearly all of the results for manganese were collected downstream from the facility.

Table 11. Surface Water Monitoring in Draft Permit

Parameter	Units	Frequency[2]	Sample Locations	Minimum Level[3] (ML)
Temperature (July 1 – September 30)	°C	Continuous	Upstream	+/- 0.2 °C
Aluminum	µg/L	3/year	Upstream	10
Manganese	µg/L	3/year	Upstream	0.5

Footnotes:
1. The sampling type is by grab sampling for all parameters listed in table, except for continuous temperature monitoring.
2. 3/year sampling frequency is defined as December, February, and May of each year.
3. The Minimum Level must be no greater than listed.

D. Electronic Submission of Discharge Monitoring Reports

The draft permit requires that the permittee submit DMR data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: https://netdmr.epa.gov. The permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

Part XX of the Permit requires that the Permittee submit a copy of the DMR to **Insert Agency**. Currently, the permittee may submit a copy to **Insert Agency** by one of three ways: 1. a paper copy may be mailed. 2. The email address for **Insert Agency** may be added to the electronic submittal through NetDMR, or 3. The permittee may provide **Insert Agency** viewing rights through NetDMR.

VI. Other Permit Conditions

A. Compliance Schedules

Compliance schedules are authorized by federal NPDES regulations at 40 CFR 122.47 and the Coeur d'Alene WQS at Section 15. Compliance schedules allow a discharger to phase in, over time, compliance with water quality-based effluent limitations when limitations are in the permit for the first time. The EPA has found that a compliance schedule is appropriate for XXX because XXXXX cannot immediately comply with the new effluent on the effective

date of the permit. Refer to Section 9.1.3 Compliance Schedules in the Permit Writers Manual (USEPA, 2010).

B. Quality Assurance Plan

The **Insert Permittee Name** is required to update the Quality Assurance Plan within **Insert interval – default 180 days** of the effective date of the final permit. The Quality Assurance Plan must include of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan must be retained on site and made available to the EPA and the IDEQ upon request.

C. Environmental Justice

As part of the permit development process, the EPA Region 10 conducted a screening analysis to determine whether this permit action could affect overburdened communities. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted.

The **facility** is located within or near a Census block group that is potentially overburdened because of cumulative direct discharge pollution. In order to ensure that individuals near the facility are able to participate meaningfully in the permit process, the EPA is making a copy of the draft permit and fact sheet available at the St. Maries public library.

Regardless of whether a **facility** is located near a potentially overburdened community, the EPA encourages permittees to review (and to consider adopting, where appropriate) Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities (see https://www.federalregister.gov/d/2013-10945). Examples of promising practices include: thinking ahead about community's characteristics and the effects of the permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, follow up, etc.

For more information, please visit https://www.epa.gov/environmentaljustice and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

D. Standard Permit Provisions

Sections **III, IV and V** of the draft permit contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VII. Other Legal Requirements

A. Endangered Species Act

update

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. The USFWS Information for Planning and Consultation (IPaC) system (https://ecos.fws.gov/ipac/location/index) identified the presence of the "Threatened" Bull Trout (Salvelinus confluentus) and critical habitat for the Bull Trout in the receiving water (Critical Habitat Unit #29). IPaC also revealed the presence of the proposed threatened North American Wolverine in the action area. The NOAA Fisheries Protected Resource App (https://www.webapps.nwfsc.noaa.gov/portal/apps/webappviewer/index.html?id=7514c715b8594944a6e468dd25aaacc9) did not reveal the presence of ESA-listed salmon or steelhead in the action area, or the presence of critical habitat for salmon or steelhead. According to the app, no other NOAA ESA-species occur in the action area.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH). A review of the action area in NOAA's Essential Fish Habitat Mapper (https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper) showed no EFH in the action area.

The EFH regulations define an adverse effect as any impact which reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Because there is no EFH in the action area, the EPA has determined that reissuance of the NPDES permit will not adversely affect EFH.

C. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. Since this facility discharges to Coeur d'Alene tribal waters and the Tribe has been approved for TAS from the EPA for purposes of the Clean Water Act, the Coeur d'Alene Tribe is the certifying authority.

The EPA had preliminary discussions with the Coeur d'Alene Tribe regarding the 401 certification during development of the draft permit. The EPA is sending a request for final 401 certification to the Tribe. Based upon the preliminary discussions with the Tribe, the EPA does not anticipate changes to the permit resulting from the final 401 certification.

D. Antidegradation

The EPA has conducted a preliminary antidegradation analysis for the draft permit to characterize the potential impact of the point source discharge into Reservation TAS waters in consideration of the Tribe's Antidegradation Policy. The Tribe may reference EPA's

preliminary analysis in their final Antidegradation Review to be provided with the final CWA Section 401 certification of the permit. See Appendix E.

E. Permit Expiration

The permit will expire five years from the effective date.

VIII. References

IDEQ. (2008). *Potlatch River Subbasin Assessment and TMDLs*. Lewiston, ID: Idaho Department of Environmental Quality Lewiston Regional Office Retrieved from https://www.deq.idaho.gov/media/464337-potlatch_river_entire.pdf.

IDEQ&CdAT. (2009). *Coeur d'Alene Lake Management Plan*. Retrieved from https://www.deq.idaho.gov/media/468377-_water_data_reports_surface_water_water_bodies_cda_lake_mgmt_plan_final_2009.pdf.

USEPA. (1986). *Quality criteria for water, 1986*. Washington, DC: United States. Environmental Protection Agency. Office of Water Regulations and Standards.

U.S. Environmental Protection Agency, Office of Water Regulations and Standards : [For sale by the Supt. of Docs., U.S. G.P.O.

USEPA. (1991). *Technical support document for water quality-based toxics control*. Environmental Protection Agency, Washington, DC. Office of the Assistant Administrator for Water.

Office of Water Enforcement and Permits : Office of Water Regulations and Standards, U.S. Environmental Protection Agency Retrieved from http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=100002CU.PDF.

USEPA. (2010). *National Pollutant Discharge Elimination System (NPDES) permit writers' manual*. Environmental Protection Agency, Washington, DC. Office of Wastewater Management.

U.S. Environmental Protection Agency, Office of Wastewater Management Retrieved from http://www.epa.gov/npdes/pubs/pwm_2010.pdf http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P1009L35.txt.

USEPA. (2014). *Water Quality Standards Handbook Chapter 5: General Policies*. (EPA 820-B-14-004). United States Environmental Protection Agency Retrieved from https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf.

Appendix A. Facility Information

Appendix B. Water Quality Data

A. Treatment Plant Effluent Data

B. Receiving Water Data

Appendix C. Reasonable Potential and Water Quality-Based Effluent Limit Formulae

A. Reasonable Potential Analysis

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (EPA, 1991) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a water quality-based effluent limit must be included in the permit.

Mass Balance

For discharges to flowing water bodies, the maximum projected receiving water concentration is determined using the following mass balance equation:

$$C_d Q_d = C_e Q_e + C_u Q_u \qquad \text{Equation 1}$$

where,

C_d	=	Receiving water concentration downstream of the effluent discharge (that is, the concentration at the edge of the mixing zone)
C_e	=	Maximum projected effluent concentration
C_u	=	95th percentile measured receiving water upstream concentration
Q_d	=	Receiving water flow rate downstream of the effluent discharge = Qe+Qu
Q_e	=	Effluent flow rate (set equal to the design flow of the WWTP)
Q_u	=	Receiving water low flow rate upstream of the discharge (1Q10, 7Q10 or 30B3)

When the mass balance equation is solved for C_d, it becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times Q_u}{Q_e + Q_u} \qquad \text{Equation 2}$$

The above form of the equation is based on the assumption that the discharge is rapidly and completely mixed with 100% of the receiving stream.

If the mixing zone is based on less than complete mixing with the receiving water, the equation becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times (Q_u \times \%MZ)}{Q_e + (Q_u \times \%MZ)} \qquad \text{Equation 3}$$

Where:

% MZ = the percentage of the receiving water flow available for mixing.

If a mixing zone is not allowed, dilution is not considered when projecting the receiving water concentration and,

$$C_d = C_e \qquad \text{Equation 4}$$

A dilution factor (D) can be introduced to describe the allowable mixing. Where the dilution factor is expressed as:

$$D = \frac{Q_e + Q_u \times \%MZ}{Q_e} \qquad \text{Equation 5}$$

After the dilution factor simplification, the mass balance equation becomes:

$$C_d = \frac{C_e - C_u}{D} + C_u \qquad \text{Equation 6}$$

If the criterion is expressed as dissolved metal, the effluent concentrations are measured in total recoverable metal and must be converted to dissolved metal as follows:

$$C_d = \frac{CF \times C_e - C_u}{D} + C_u \qquad \text{Equation 7}$$

Where C_e is expressed as total recoverable metal, C_u and C_d are expressed as dissolved metal, and CF is a conversion factor used to convert between dissolved and total recoverable metal.

The above equations for C_d are the forms of the mass balance equation which were used to determine reasonable potential and calculate wasteload allocations.

Maximum Projected Effluent Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, the EPA's Technical Support Document for Water Quality-based Toxics Controls (TSD, 1991) recommends using the maximum projected effluent concentration (Ce) in the mass balance calculation (see equation 3, page C-5). To determine the maximum projected effluent concentration (Ce) the EPA has developed a statistical approach to better characterize the effects of effluent variability. The approach combines knowledge of effluent variability as estimated by a coefficient of variation (CV) with the uncertainty due to a limited number of data to project an estimated maximum concentration for the effluent. Once the CV for each pollutant parameter has been calculated, the reasonable potential multiplier (RPM) used to derive the maximum projected effluent concentration (Ce) can be calculated using the following equations:

First, the percentile represented by the highest reported concentration is calculated.

$$p_n = (1 - \text{confidence level})^{1/n} \qquad \text{Equation 8}$$

where,

p_n	=	the percentile represented by the highest reported concentration
n	=	the number of samples
confidence level	=	0.99 (99%)

and

$$RPM = \frac{C_{99}}{C_{P_n}} = \frac{e^{Z_{99} \times \sigma - 0.5 \times \sigma^2}}{e^{Z_{P_n} \times \sigma - 0.5 \times \sigma^2}} \quad \text{Equation 9}$$

Where,

σ^2 = $\ln(CV^2 + 1)$

Z_{99} = 2.326 (z-score for the 99th percentile)

Z_{Pn} = z-score for the Pn percentile (inverse of the normal cumulative distribution function at a given percentile)

CV = coefficient of variation (standard deviation ÷ mean)

The maximum projected effluent concentration is determined by simply multiplying the maximum reported effluent concentration by the RPM:

$C_e = (RPM)(MRC)$ Equation 10

where MRC = Maximum Reported Concentration

Maximum Projected Effluent Concentration at the Edge of the Mixing Zone

Once the maximum projected effluent concentration is calculated, the maximum projected effluent concentration at the edge of the acute and chronic mixing zones is calculated using the mass balance equations presented previously.

Reasonable Potential

The discharge has reasonable potential to cause or contribute to an exceedance of water quality criteria if the maximum projected concentration of the pollutant at the edge of the mixing zone exceeds the most stringent criterion for that pollutant.

B. WQBEL Calculations

Calculate the Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated using the same mass balance equations used to calculate the concentration of the pollutant at the edge of the mixing zone in the reasonable potential analysis. To calculate the wasteload allocations, C_d is set equal to the acute or chronic criterion and the equation is solved for C_e. The calculated C_e is the acute or chronic WLA. Equation 6 is rearranged to solve for the WLA, becoming:

$$C_e = WLA = D \times (C_d - C_u) + C_u \quad \text{Equation 11}$$

Idaho's water quality criteria for some metals are expressed as the dissolved fraction, but the Federal regulation at 40 CFR 122.45(c) requires that effluent limits be expressed as total recoverable metal. Therefore, the EPA must calculate a wasteload allocation in total recoverable metal that will be protective of the dissolved criterion. This is accomplished by dividing the WLA expressed as dissolved by the criteria translator, as shown in equation __. As discussed in

Appendix ___, the criteria translator (CT) is equal to the conversion factor, because site-specific translators are not available for this discharge.

$$C_e = WLA = \frac{D \times (C_d - C_u) + C_u}{CT} \qquad \text{Equation 12}$$

The next step is to compute the "long term average" concentrations which will be protective of the WLAs. This is done using the following equations from the EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z\,\sigma)} \qquad \text{Equation 13}$$

$$LTA_c = WLA_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \qquad \text{Equation 14}$$

where,

σ^2 = $\ln(CV^2 + 1)$

Z_{99} = 2.326 (z-score for the 99th percentile probability basis)

CV = coefficient of variation (standard deviation ÷ mean)

σ_4^2 = $\ln(CV^2/4 + 1)$

For ammonia, because the chronic criterion is based on a 30-day averaging period, the Chronic Long Term Average (LTAc) is calculated as follows:

$$LTA_c = WLA_c \times e^{(0.5\sigma_{30}^2 - z\sigma_{30})} \qquad \text{Equation 15}$$

where,

σ_{30}^2 = $\ln(CV^2/30 + 1)$

The LTAs are compared and the more stringent is used to develop the daily maximum and monthly average permit limits as shown below.

Derive the maximum daily and average monthly effluent limits

Using the TSD equations, the MDL and AML effluent limits are calculated as follows:

$$MDL = LTA \times e^{(z_m\sigma - 0.5\sigma^2)} \qquad \text{Equation 16}$$

$$AML = LTA \times e^{(z_a\sigma_n - 0.5\sigma_n^2)} \qquad \text{Equation 17}$$

where σ, and σ^2 are defined as they are for the LTA equations above, and,

σ_n^2 = $\ln(CV^2/n + 1$

z_a = 1.645 (z-score for the 95th percentile probability basis)

z_m = 2.326 (z-score for the 99th percentile probability basis)

n = number of sampling events required per month. With the exception of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ‘‘n’’ should is set at a minimum of 4. For ammonia, In the case of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ‘‘n’’ should is set at a minimum of 30.

C. Critical Low Flow Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits. The Coeur d’Alene Tribe’s water quality standards require criteria be evaluated at the following low flow receiving water conditions (See the Coeur d’Alene WQS at Section 12(2)) as defined below:

Acute aquatic life	1Q10
Chronic aquatic life	7Q10
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	harmonic mean flow
Ammonia	30B3

1. The 1Q10 represents the lowest one day flow with an average recurrence frequency of once in 10 years.
2. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years.
3. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 5 years.
4. The 30Q10 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 10 years.
5. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows.
6. The 30B3 is biologically based and indicates an allowable exceedance for 30 consecutive days once every 3 years.

Appendix D. Reasonable Potential and Water Quality-Based Effluent Limit Calculations

References

Appendix E. CWA 401 State Certification